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09/982,035	10/17/2001	Masakatsu Masaki	5000-4963	7520

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EXAMINER
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KOCH, GEORGE R

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 07/01/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/982,035

Applicant(s)

MASAKI ET AL.

Examiner

George R. Koch III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 19-24 and 35-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18, 25-34 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of group I (claims 1-18, 25-34 and 41) in Paper No. 8 is acknowledged.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Objections***

3. Claim 18 is objected to because of the following informalities: In line 2, the word "atructure" is present. It appears "structure" was intended. Appropriate correction is required.
4. Claim 30 is objected to because of the following informalities: In line 1, reference is made to a "second driving device" when no first driving device had been previously cited. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-18 and 25-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Svensson et al (US Patent 4,870,921)

As to claim 1, Svensson discloses an apparatus for processing a workpiece, especially a portion of an automobile body, comprising a processing device (item 20) and support device (item 18 and related substructures, especially items 11, 12, 13 and 16) movably supporting the processing device, wherein the supporting device is movable relative to the portion of the automobile body being processed.

As to claim 2, Svensson discloses that the processing device is a processing head, and specifically, a dispensing nozzle (see column 2, lines 4-15).

As to claims 3, the apparatus is arranged and constructed such that movement of the automobile body causes the supporting device to move relative to the portion of the automobile body being processed. Svensson discloses, for example, a conveyor (item C), and also discloses that the frame is movable towards the automobile body by hydraulic jacks (see, for example, column 1, lines 66-67).

As to claim 4, the apparatus is arranged and constructed such that the supporting device is movable relative to the portion of the automobile body being processed by moving both the automobile body and the supporting device. Svensson discloses, for example, a conveyor (item C), and also discloses that the frame is

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movable towards the automobile body by hydraulic jacks (see, for example, column 1, lines 66-67).

As to claim 5, the processing device is movably supported on the supporting device in a width direction of the automobile body (see, for example, item 27, described in column 2, lines 22-24, which provides "centralizing movement").

As to claim 6, Svensson discloses a transverse direction driving device (item 27, hydraulic cylinder) which moves the processing device (item 20) in a width direction of the automobile body.

As to claim 7, Svensson discloses a position detector (items 22, for example, described in column 2, lines 16-21) for detecting the relative positions of the supporting device and the portion of the automobile body being processed, wherein a transverse direction driving device (item 27) drives the supporting device based on detection signals generated by the position detector. Svensson also discloses sensors (item 33) for identifying the longitudinal positioning. Svensson discloses that the sensors (item 22) feed into the control system (item 56, see Figure 3) and that the control system activates transverse direction driving device (item 27, see column 3, lines 17-30).

As to claim 8, the processing device is movably supported on the supporting device in a vertical direction of the automobile body. Svensson discloses that the frame is movable towards the automobile body by hydraulic jacks (see, for example, column 1, lines 66-67). Furthermore, Svensson also discloses pneumatic cylinders for longitudinal displacement of the nozzle into or out of an injection opening in the car body (item 46, see column 2, lines 65-67).

As to claim 9, Svensson discloses a vertical driving device for moving the processing device in a vertical direction with respect to the automobile body. Svensson discloses that the frame is movable towards the automobile body by hydraulic jacks (see, for example, column 1, lines 66-67). Svensson also discloses four hydraulic cylinders (item 13) for positioning the table (item 11). Furthermore, Svensson also discloses pneumatic cylinders for longitudinal displacement of the nozzle into or out of an injection opening in the car body (item 46, see column 2, lines 65-67).

As to claim 10, Svensson discloses a position detector (items 22, for example, described in column 2, lines 16-21) for detecting the relative positions of the supporting device and the portion of the automobile body being processed, wherein a vertical direction driving device (which can be interpreted as any of items 12, 13 and 41 with 46) drives the supporting device based on detection signals generated by the position detector. Svensson also discloses sensors (item 33) for identifying the longitudinal positioning. Svensson discloses that the sensors (item 22) feed into the control system (item 56, see Figure 3) and that the control system activates any of several vertical direction driving device (item 12, 13, and 41 {which includes 46 as a subunit}, see column 3, lines 17-30).

As to claim 11, Svensson discloses that the processing device is movably supported on the supporting device in a width and vertical direction of the automobile body. See sections cited in the rejections of claims 5 and 8 above.

As to claim 12, Svennson discloses a transverse direction driving device and a vertical direction driving device. See sections cited in the rejection of claims 6 and 9 above.

As to claim 13, Svennson discloses a position detector for detecting the relative positions of the workpiece and the supporting device, wherein the transverse direction driving device and the vertical direction driving device drive the processing device based on detection signals generated by the position detector. See sections cited in the rejections of claims 7 and 10 above.

As to claim 14, Svennson discloses a support mechanism movably supporting the processing device (item 20) on the supporting device. The support mechanism can be interpreted as any or all of structures 41 (with substructure 46), 18 and 11 and their related substructures.

As to claim 15, Svenson discloses that the support mechanism, for example, item 11, movably supports the processing device in a width direction of the automobile body (see, for example, item 27, described in column 2, lines 22-24, which provides "centralizing movement").

As to claim 16, Svenson discloses that the support mechanism, for example, item 11, movably supports the processing device in a vertical direction of the automobile body (see, for example, item 13 and 46, see rejection of claims 8, 9 and 10 above)

As to claim 17, Svenson discloses that the support mechanism, for example, item 11, movably supports the processing device in a width direction and in a vertical direction of the automobile body. See rejections of claim 15 and 16 above.

As to claim 18, Svensson discloses that the support mechanism includes a structure that is rotatably and slidably supported on the supporting structure. Svensson discloses an articulated end piece (item 43) which provides universal adjustability, i.e., rotational and linear adjustment, of the arm as well as an attachment to the frame (see Figure 7, see column 2, lines 56-64).

As to claim 25, Svensson discloses an apparatus for processing a workpiece, comprising a processing device (item 20) and support device (item 18 and related substructures, especially items 11, 12, 13 and 16) movably supporting the processing device, wherein the supporting device is movable relative to the portion of the workpiece being processed.

As to claim 26, Svensson discloses that the processing device is a processing head, and specifically, a dispensing nozzle (see column 2, lines 4-15).

As to claim 27, Svensson discloses that the processing device is movably supported on the supporting device in a direction that is substantially parallel to a line connecting the supporting device and the workpiece being processed. See rejection of claim 8 above. The line substantially parallel to the line connecting the supporting device and the portion of the workpiece being processed is considered the "vertical direction". (Note, if this line is considered the "width direction", see rejection of claim 5 above.)

As to claim 28, Svensson discloses a first driving device for moving the processing device in a direction that is substantially parallel to the line connecting the supporting device and the portion of the workpiece being processed. See rejection of

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claim 9 above. (Note, if this line is considered the "width direction", see rejection of claim 6 above.)

As to claim 29, Svensson discloses that the processing device is movably supported on the supporting device in a direction that is substantially parallel to a line that is orthogonal to a line connecting the supporting device and the workpiece being processed. See rejection of claim 5 above. The line substantially parallel to a line that is orthogonal to a line connecting the supporting device and the portion of the workpiece being processed is considered the "width direction". (Note, if this line is considered the "vertical direction", see rejection of claim 8 above.)

As to claim 31, Svensson discloses that the processing device (item 20) is movably supported in a direction (i.e., similar to the vertical direction) that is substantially parallel to a line connecting the supporting device and the portion of the workpiece being processed and in a direction that is substantially parallel to a line orthogonal to the line connecting the supporting device and the portion of the workpiece being processed. See rejection of claims 27 and 29 above, and see also citations in rejections of claims 11, 5 and 8 above.

As to claim 32, Svensson discloses a first driving device (items 12, 13 and 46) for moving the processing device in the direction (i.e., vertical direction) that is substantially parallel to the line connecting the supporting device and the portion of the workpiece being processed, and a second driving device (item 27) for moving the processing device in the direction (i.e., width direction) that is substantially parallel to the line orthogonal to the line connecting the supporting device and the portion of the workpiece

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being processed. See rejections of claims 28 and 30 above, and see also citations in rejections of claims 12, 6 and 9 above.

As to claim 33, Svensson discloses that the processing device is movably supported on the supporting device in a direction opposite to a surface of the portion being processed. Svensson discloses that the processing device has universal adjustability (see Figure 7, see column 2, lines 56-64). Svensson also discloses various axis of movement in the form of hydraulic cylinders (items 12, 13, 27, 30 and 46).

As to claim 34, Svensson discloses that the processing device is movably supported on the supporting device in a direction that is substantially orthogonal to a surface of the portion being processed. Svensson discloses that the processing device has universal adjustability (see Figure 7, see column 2, lines 56-64). Svensson also discloses various axis of movement in the form of hydraulic cylinders (items 12, 13, 27, 30 and 46).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 18 is further rejected under 35 U.S.C. 103(a) as being unpatentable over Svensson as applied to claims 1-17 and 25-34 above, and further in view of Hynes et al (US Patent 6,447,847 B1).

The disclosure of universal adjustability in the support mechanism of Svensson can be interpreted as not disclosing rotational movement capabilities. Svensson does disclose slidable motion (see column 2, lines 65-67) as the hydraulic cylinder provides slidable motion.

Hynes discloses that is known for the support mechanism of a processing device to include rotational motion capabilities (see, for example, column 2, lines 28-30). It is clear from Hynes that rotational movement, in combination with the cited width and vertical movements (which would consist of 2 of the X-Y-Z axis cited in Hynes) provides the capability to dispense in various patterns (see generalized discussion in columns 1 and 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided rotational motion in conjunction with width and vertical motion in order to provide the full variety of coating patterns for coating three dimensional objects.

***Allowable Subject Matter***

10. Claim 41 is allowed.

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11. The following is an examiner's statement of reasons for allowance: As to claim 41, Svensson discloses the supporting structure with one arm for supporting the processing device and the first and second processing devices as claimed. Svensson also discloses vertical driving cylinders for each nozzle or processing device (see column 2, lines 65-67). Svensson discloses that the processing devices are spray nozzles. The spray nozzles are "air spray" nozzles, and are capable of functioning as air guns.

However, Svensson does not disclose the first and second transverse driving cylinders, Svensson merely discloses one transverse driving cylinder (item 27) which cooperates with the frame which supports the

Furthermore, Okuda (US Patent 5,085,374) discloses two arms (item 33, see especially Figure 3). The support structures for each nozzle as shown in Figure 3 are analogous to the first and second follower frames. However, neither Svensson or Okuda does not disclose that each arm has a transverse driving cylinder and a vertical driving cylinder. Furthermore, neither Svensson or Okuda disclose that the first and second follower frames respectively comprise first, second and third transversely disposed frames, wherein the second transversely disposed frame of the first follower frame is coupled to an end portion of the first arm, and the second transversely disposed frame of the second follower frame is coupled to an end portion of the second arm.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

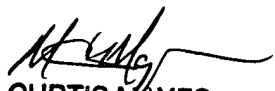
Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



George R. Koch III  
June 25, 2003



CURTIS MAYES  
PRIMARY EXAMINER